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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,483	03/11/2004	Tetsuji Suzuki	26046	3294
20529	7590	06/14/2006	EXAMINER	
NATH & ASSOCIATES 112 South West Street Alexandria, VA 22314			SEVER, ANDREW T	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/797,483	<b>Applicant(s)</b> SUZUKI ET AL.	
	<b>Examiner</b> Andrew T. Sever	<b>Art Unit</b> 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-4,9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/3/2006 has been entered.

### ***Election/Restrictions***

2. Claims 1-4, 9, and 10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/11/2005.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imaoka et al. (US 6,174,060) in view of Kurtz et al. (US 2005/0128392 as cited in the previous office action.)

Imaoka teaches in figures 1-3 an image displaying apparatus comprising:

A light source (1) for emitting a beam containing at least three primary colors;

First to third reflective spatial light modulators (14 R, G, B) corresponding to the three primary colors, respectively;

A first dichroic mirror (6) for separating the beam from the light source into a first-second primary color beam and a third primary color beam;

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A second dichroic mirror (8) for separating the first-second primary color beam into a first primary color beam and a second primary color beam;

First to third steering mirrors (12 R, G, B) comprising reflective polarizing plates for guiding the separated first to third primary color beams corresponding to the first to third reflective spatial light modulators, respectively;

First to third reflective polarizing plates (13 R, G, B) for polarizing and separating the corresponding primary color beams into a linearly polarized beam of a first polarized state, transmitting and injecting the linearly polarized beam of the first polarized state into the corresponding reflective spatial light modulator, polarizing and separating a modulated-and-reflected beam from the corresponding reflective spatial light modulator into a linearly polarized beam of a second polarized state, and reflecting the linearly polarized beam of the second polarized state (see figure 6 for details of how the light is affected by first to third reflective polarizing plates (13) and modulators (14));

A color combining optical system (15) for combining the three primary color beams modulated by the reflective spatial light modulators and reflected by the reflective polarizing plates into a composite beam;

An image forming optical unit (16) for receiving the composite beam and forming an image according to the received composite beam, and wherein

The first and third steering mirrors are disposed to be substantially oriented in the same direction (See figure 3 which shows 12 B and 12 R oriented the same way), and a second steering mirror is disposed so that the optical axis of a beam injected into the

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second steering mirror is orthogonal to the optical axes of beams injected into the first and third steering mirrors (in figure 3 12G is oriented orthogonal to 12 B and 12 R),

The optical axes of the beams traveling from the first to third steering mirrors to the first to third reflective spatial light modulators are parallel to one another (as shown in figure 3 they all travel in the up direction), the planes of polarization of two of the beams are orthogonal or parallel to each other, and

The reflective faces of the first to third steering mirrors and the reflective faces of the first to third reflective polarized plates are disposed skew, respectively (see figures 2 and 3 respectively that show they are skew to each other.)

Imaoka does not teach that the first to third reflective polarizing plates are wire grid type reflective polarizing plates. Kurtz teaches in paragraph 9 that conventional glass polarizers, such as those that Imaoka probably has, exhibit many problems such as limited angular response, manufacturing quality problems, thermal stress related aberration, among other limitations. Kurtz teaches in paragraph 13 that many of these problems are overcome by using wire grid type polarizers or polarizer beam-splitters instead of the prior art prism/polarized mirror. Kurtz teaches that wire grid polarization device have high extinction ratios, high efficiencies, broader angular acceptance, and better thermal performance. Given all the advantages taught by Kurtz for using a wire grid polarization device; it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the standard polarizer of Imaoka with a wire grid polarizer as taught by Kurtz.

***Allowable Subject Matter***

6. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Claim 7 claims that the color combining optical system and each of the first or third reflective spatial light modulators are attached to a common planar substrate (requiring all three modulators to be on the same plane). This was not found in the prior art nor would it be obvious to modify the various embodiments of Imaoka this way, as it would require a complete rearrangement of more than one part that would affect the optical characteristics of the projector. Accordingly claim 7 has been indicated as being allowable if it were to include all of the limitations of rejected claim 8 that it is dependent on.

***Response to Arguments***

8. Applicant's arguments with respect to claim 8 have been considered but are moot in view of the new ground(s) of rejection.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



AS

**William Perkey**  
**Primary Examiner**